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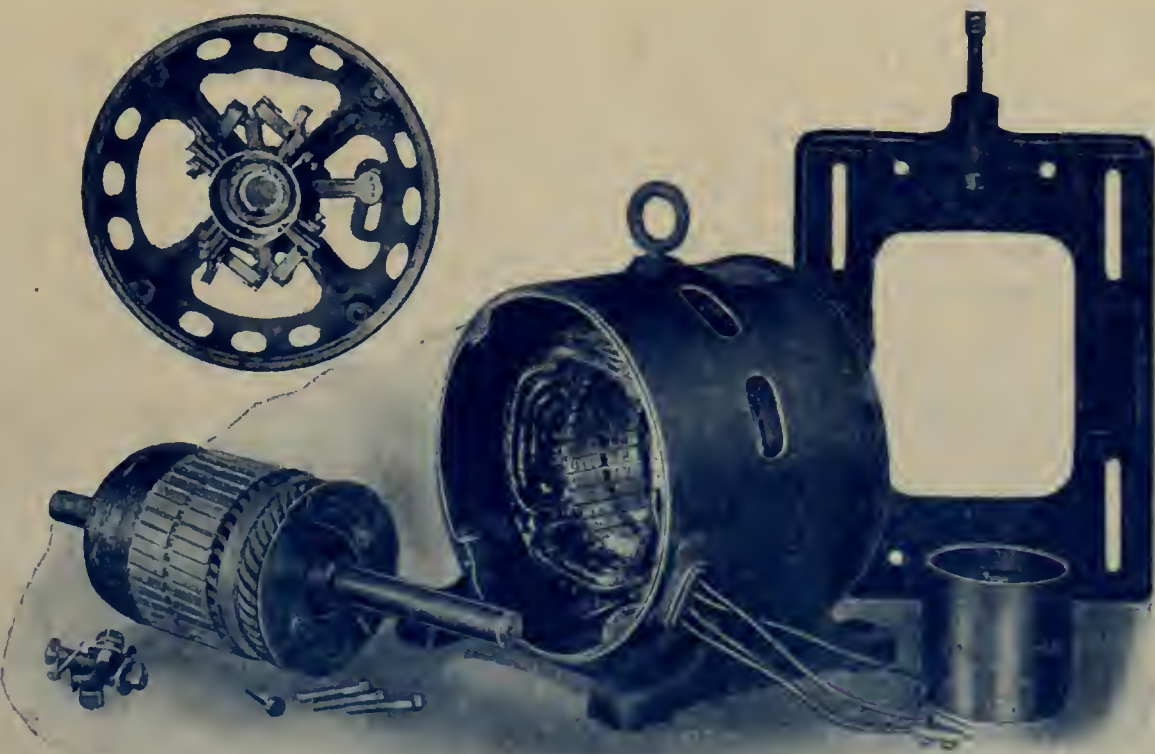
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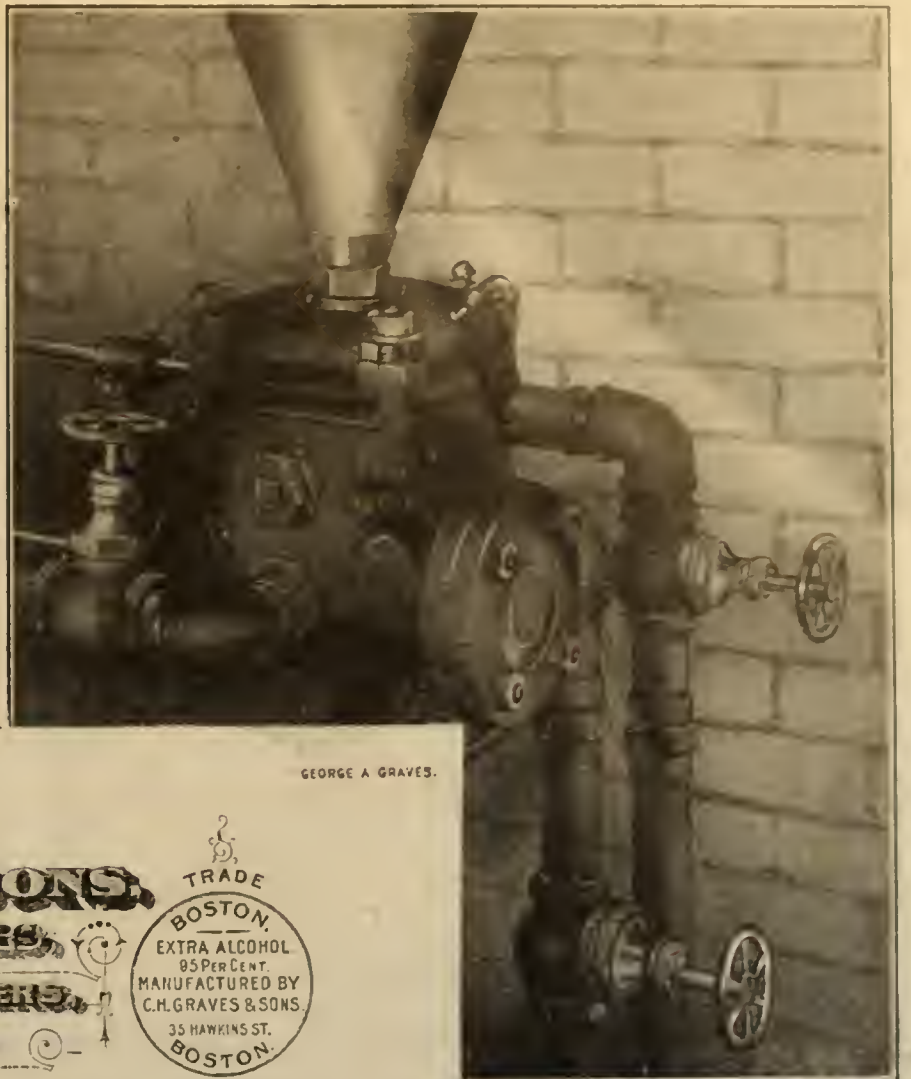
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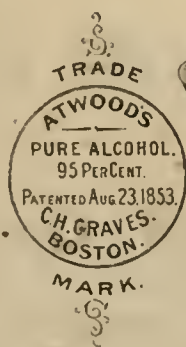
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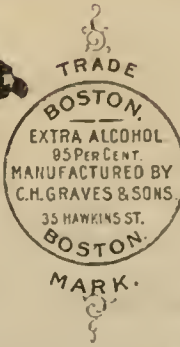


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NOTICE.—The postage of this issue of the *S.A. Mining Journal* is: South Africa, ½d. All other parts, 1d.

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Notes and News.

The acceptance by the Government of tenders for two of the areas offered on the Far East Rand and the withdrawal of the offer of the others were notified in the last issue of the *Government Gazette* as follows:—"With reference to Government Notice No. 711, dated the 28th May, 1917, calling for applications for the lease of the exclusive right to mine for precious metals on certain portions of the farms De Springs No. 15, Geduld No. 24, and De Rietfontein No. 14, in the mining district of Boksburg, Transvaal Province, notice is hereby given that the Government has provisionally accepted the tenders of Barnato Brothers and Springs Mines, Ltd., for the Springs-South Geduld area and the De Rietfontein East area respectively, and has decided to decline the tenders received for De Rietfontein West and the Geduld East areas. The above-mentioned notice is hereby withdrawn in terms of Clause 3 thereof." It is understood that the De Rietfontein West area will be offered again in the course of a few days.

* * * *

A feature in connection with the formulæ of the new Government leases, that appears to have drawn a certain amount of comment, is that they do not give the whole position at a glance. It is always possible, of course, to arrive at the real incidence of any one of the formulæ concerned by making a calculation upon paper, but what seems to be wanted is a simple method of expressing the facts. Take, for example, the Springs-South Geduld formula, to the effect that if y represents the percentage of profit claimed by the Treasury and x represents the percentage of recovery which is profit, then $y = 80 - \frac{7.5}{x}$. A

brief method of expressing this in words would be that the Government share of the profits in every case is equal to 80 per cent. of such profits, less 7.5 per cent. of the recovery. That is to say, if the recovery from the ore were 30s. per ton and profits 10s. per ton milled, the Government's share of the profit would be 80 per cent. of 10s., less 7.5 per cent. of 30s.; in other words, 8s., less 2s. 3d., or 5s. 9d. per ton milled. Since the profit is $\frac{1}{3}$ of the recovery, 7.5 per cent. of the latter would be equal to 22.5 per cent. of the profit, and therefore, expressed as a percentage of the profit only, the Government share would be equal to $80 - 22.5$, or 77.5 per cent. The same process may be applied, *mutatis mutandis*, to the other formulæ. In the De Rietfontein East lease the Government share is 55 per cent. of the profit throughout, less 11.75 per cent. of the total recovery, and in the Treasury agreement 46 per cent. of the profit in every instance, less 9.6 per cent. of the total amount of the recovery. To these figures, of course, the further additions for taxation have to be made.

* * * *

In the Union *Gazette* an order of the Governor-General, dated October 31, makes the following stipulation: "All persons or firms in the Union holding stocks of petrol in excess of five cases (whether for sale or for private use) shall, within one week of the date of publication of this order, furnish to the nearest Magistrate, or to the Collector of Customs in those places where there is a Customs office, a return showing the quantity of petrol held by such persons or firms on the 31st October, 1917. On receipt of such returns the Magistrate or Collector of Customs aforesaid will, without further notification or instruction, communicate by telegraph to the Secretary, Food Advisory Committee, c/o Howard Pim, Esq., Exploration Buildings, Johannesburg, the total quantity of petrol so reported to them, and forward the full particulars by the earliest post." The order is under the Public Welfare Act, which if disregarded carries a penalty of £100, or six months' imprisonment, or both.

At the last meeting of the South African Institution of Engineers, an important paper, entitled **Winding Ropes.** "The Factor of Safety of Wire Ropes used for Winding in Mine Shafts," was read by the author, Mr. J. A. Vaughan (Past President), and was illustrated by lantern slides. The paper is reprinted in full in the current issue of the journal of the Institution.

* * * *

One of the leading engineering firms on the Rand has posted up the following notice to apprentices and improvers: "With a view to encouraging the attendance of night classes, the management has decided to grant an hour off, without deduction of pay, to all apprentices and improvers attending night classes on the days such are held. To obtain this concession, it will be necessary for employees to procure from their class master a letter certifying that they are attending class, and also stating what nights those classes are held. All apprentices and improvers are notified that, if they do not attend night classes either at the T.U.C., Trades School, the School of Mines, or some recognised teacher, their services will not be retained by this company at the expiration of their probationary period, viz., two years."

* * * *

The Wolhuter dividend of 1s. per share for the half-year ended October 31 makes the total distribution 2s. 3d. for the year. It may be remembered that at the last annual meeting, the question of the life of the mine was raised. The property is virtually developed, and there is no additional area which could be acquired to prolong the profitable period. For profits tax purposes it had been agreed with the Government that the life was five years from November 1 last, but this estimate is probably very much on the conservative side. As the chairman pointed out, it is impossible to determine the life of any mine until it has been developed to its bottom level. As the table printed elsewhere in this issue shows, the Wolhuter ought to be one of the least risky mining investments on the Rand at the low prices of to-day.

* * * *

The preliminary report just issued on the census of factories and productive industries shows that all establishments (exclusive of the railway workshops) represent thirty-six millions: the railway workshops four millions three hundred thousand pounds, and the total £40,300,000. The number of factories in the Cape is 2,006; Natal, 694; Transvaal, 1,153; O.F.S., 284; total, 4,047. The capital invested in the various Provinces is as follows: Cape, £14,941,000; Natal, £10,657,000; Transvaal, £17,533,000; O.F.S., £2,334,000; total, £45,465,000. The average number of persons employed is given as: Cape, 37,153, of whom 14,554 are male white and 2,292 female white; Natal, 25,770, of whom 6,058 are male white and 626 female white; Transvaal, 32,227, of whom 12,085 are male white and 1,124 female white; and O.F.S., 4,264, of whom 1,582 are male white, and 522 female white. The grand total employed is 994,430, of whom 34,279 are male white and 4,564 female white. The wages paid aggregate as follows: Cape of Good Hope—White persons, £2,062,000; coloured persons, £920,000; total, £2,982,000. Natal—White persons, £1,172,000; coloured persons, £487,000; total, £1,659,000. Transvaal—White persons, £3,110,000; coloured persons, £673,000; total, £3,783,000. Orange Free State—White persons, £289,000; coloured persons, £68,000; total, £357,000. Total for Union—White persons, £6,633,000; coloured persons, £2,148,000; total, £8,781,000. The cost of fuel and light in each Province was returned as follows: Cape of Good Hope, £268,000; Natal, £192,000; Transvaal, £722,000; Orange Free State, £45,000; total for the Union, £1,227,000. The value of materials used and articles produced and work done in each Province, as shown in returns, is as follows: Cape of Good Hope—Materials used, £9,273,000; articles produced and work done, £14,761,000; value added in process of manufacture, £5,489,000. Natal

—Materials used, £5,362,000; articles produced and work done, £9,314,000; value added in process of manufacture, £3,952,000. Transvaal—Materials used, £6,141,000; articles produced and work done, £13,731,000; value added in process of manufacture, £7,500,000. Orange Free State—Materials used, £1,202,000; articles produced and work done, £1,885,000; value added in process of manufacture, £683,000. Total for the Union—Materials used, £21,978,000; articles produced and work done, £39,691,000; value added in process of manufacture, £17,714,000.

* * * *

The shareholders of the Rand Selection Corporation have been sent copies of the circular which has been issued to the shareholders of Springs Mines, Ltd., advising them that their company's tender for the lease of the De Rietfontein East Government gold mining area has been provisionally accepted by the Government. The circular appears in full elsewhere in this issue. The Rand Selection people add: "Under the existing agreement with the Consolidated Mines Selection Company, Ltd., by which this company has the right to participate up to 25 per cent. in any new mining venture or mining business in South Africa which that company may acquire, your company has exercised its right of participating to the extent of 25 per cent. in the issue of 200,000 shares in Springs Mines, Ltd., to The Consolidated Mines Selection Company, Ltd., at £3, viz., 50,000 shares, and also in the guarantee to loan and advance, or to procure the loan and advance by others, to Springs Mines, Ltd., all such further sums as may be required for shaft sinking, preliminary development and equipment. The 25 per cent. participation of your company in the consideration for these undertakings is an option for five years to call up to 75,000 shares in Springs Mines, Ltd., at £3 per share. It will be observed that the acquisition of the Government lease will not defer the dividend-paying stage of Springs Mines, Ltd."

* * * *

The report of the Executive Committee of the Rhodesia Chamber of Mines for the month of September, 1917, states, *inter alia*:—
The Latest Rhodesia Chamber of Mines Report. The number of natives employed in August shows a decrease of 1,206 as compared with the corresponding month in 1916. The Chamber has been notified that the Banks in Rhodesia have agreed to increase the price of fine silver to 2s. 6d. per oz., subject to revision should circumstances require. The S.A. Union Government has been informed by the Ministry of Munitions that the supply of glycerine to South Africa has been reduced by about one-third. It is expected that the effect of this large reduction will not be immediately felt, as the explosive factories hold certain reserve stocks. The position as regards the near future is, however, a serious one, and calls for fresh efforts on the part of the mines and mine employees to make still further use, wherever possible, of lower grade explosives. The registration of native foreigners by means of the finger print system came into force on the 1st July last, all records in connection therewith being filed at the Native Foreigners' Identification Bureau, Police Station, Bulawayo, where all enquiries should be made. The advantages offered to employers of labour by this system are the recovery of deserters, and the means of ascertaining the antecedents of reduction and other workers. In order to attain these advantages, it is essential that employers should record the registration certificate numbers of their native employees and the names of the offices of issue. The Acting Controller of Imports, Salisbury, has drawn the attention of the Chamber to Government Notices No. 392 and 396 of the 12th and 19th October respectively, relating to the provision of shipping space from ports in Canada, United States of America and India. Mr. S. C. Dyer has been appointed Mr. R. R. Hollins's representative on the Chamber. Mr. T. H. Cooke has been elected as alternate of Mr. Cyril E. Parsons on the Executive Committee. The total value of the gold and other mineral yield from Southern Rhodesia for September was £394,239, as compared with £367,631 for the previous month of August.

TOPICS OF THE WEEK.

A UNION OIL SHALE INDUSTRY.

THE petrol scare lends point and interest to the results of the investigations made by Dr. P. A. Wagner into the oil-producing potentialities of the Union at the instance of the Scientific and Technical Committee. Dr. Wagner's conclusions are printed in the last issue of the "Journal of Industries" in the form of a paper on "Mineral Oil, Solid Bitumens, Natural Gas and Oil Shale," and they merit the widest publicity. By way of introduction he points out that during 1916 there were imported into the Union of South Africa 23,470,141 gallons of mineral oils valued at the place of production at £843,566, and 28,368,999 pounds of paraffin wax valued at £300,240. Of the oils, 2,903,385 gallons, valued at £190,351, came under the heading of lubricating oils; 5,628,763 gallons, valued at £361,741, under the heading of motor spirit, including benzine and naphtha; 9,347,944 gallons, valued at £251,850, under the heading of paraffin (illuminating oil); and 5,590,044 gallons, valued at £39,624, under the heading of mineral oils not otherwise described. "These figures," he says, "to which must be added the fairly considerable imports of Rhodesia, the Protectorate of South-West Africa, and the Portuguese Colonies, will serve to indicate what a magnificent field there is in South Africa for a home industry in mineral oils and oil-products, even if the possibility of establishing an export trade be left altogether out of consideration." Early in his memoir, Dr. Wagner states that he is indebted for valuable assistance in the preparation of his report to Drs. A. W. Rogers, R. B. Young, A. L. du Toit, and Messrs. J. E. Mills Davies, Tudor G. Trevor, W. Kidger Tucker, E. M. Goodwin, and S. L. Kling. Mr. E. H. Cunningham Craig's valuable report on "Petroleum Prospects in the Union of South Africa" has also been laid freely under contribution. His reference to the prospects of finding petroleum in South Africa is succinct and sufficient. He writes:—

The glamour of phenomenal profits and huge fortunes made out of petroleum in America and elsewhere, early turned attention to the possibility of finding hidden stores of that valuable substance in South Africa, and a great deal of boring—in most instances quite useless and unjustifiable—has been undertaken within the past 30 years by various oil companies and syndicates. In regard to the Karroo formation in particular high hopes have at different times been entertained owing to the discovery at a number of widely-separated points of "shows" of naturally distilled oil, in and in the neighbourhood of dolerite intrusions; it being even at the present day maintained by some enthusiasts that oil could be struck almost anywhere beneath the Karroo by going deep enough. The fact of the matter, as Cunningham Craig has pointed out, is that there is only one area in the vast extent of country which they occupy, within which the Karroo beds are known to afford some at any rate of the requisite conditions for the formation and accumulation of oil—namely, the so-called Folded Belt in the southern part of the Cape Province, and the only actual evidence that we have of the existence or former existence of oil in the Karroo is furnished by veins of a peculiar coal-like substance, that occur in the Laingsburg, Beaufort West, and Fraserburg districts.

After a very thorough and well-informed survey, Dr. Wagner concludes that "while the possibility of the existence of valuable petroleum finds in British South Africa cannot be finally dismissed, the likelihood of any important discovery seems remote." He is more encouraging in regard to the prospects of an oil shale industry, and reviews the evidence in its favour with great care and impartiality. His concluding opinions are that the beds of oil shale hitherto discovered in South Africa are thin in comparison with those being worked in Scotland and France, and not very rich. To some extent, however, this is compensated by the high price of mineral oils and oil products in South Africa. Such exploratory work as has been done on the deposits has clearly demonstrated that the oil shale occurs in patches of varying thickness and quality, and that only systematic boring or prospecting by means of shallow shafts or adits, where feasible, can be relied upon to provide satisfactory data for calculations of quantity and average grade. Up to the present only one small area, situated in the north-eastern portion of the Utrecht district of Natal, appears to have been properly examined, and if the figures published

as a result of this investigation can be accepted—which could easily be ascertained by independent sampling—the area contains a sufficient tonnage of workable shale to warrant the erection of a plant capable of treating 300 tons per diem. As a preliminary to this, however, it is considered essential that a representative sample from 40 tons to 50 tons of the shale be sent to the experimental plant attached to one or the other of the great Scottish works and tested on a commercial scale in order to determine the most satisfactory methods of treatment and recovery of by-products. In regard to the other areas dealt with, Dr. Wagner says sufficient work has not as yet been done to justify the expression of a definite opinion as to their possibilities. He pertinently adds:—

It is relevant to observe that nothing has retarded the systematic exploration of the oil-shale deposits in certain districts of the Transvaal so much as the attitude of the owners of many private farms, who, having acquired an exaggerated idea of the value of the shale deposits on their land, demand large option moneys as a preliminary to any work being done. In view of the large expenditure required to bring an oil-shale proposition to the productive stage, is it too much to hope that property-owners may be brought to understand that they will be consulting their own best interests by granting every facility to anyone desirous of carrying out bona fide investigations? A South African shale-oil industry, if established on a sound financial basis, properly organised and carefully managed, should require no State aid, except perhaps in the first years of its existence, when the Government could assist, if necessary, by instituting a system of bounties arranged so as to become automatically extinguished after a certain period. Prevailing conditions due to the war afford a far greater protection than anything the State could reasonably be expected to do, but, owing to the difficulty of obtaining the requisite plant at the present time, it is very doubtful whether it will be possible to take advantage of them. If developments are at all favourable there is no reason, however, why South Africa should not, within a very brief period of the cessation of hostilities, be in the happy position of having achieved at least partial independence of the oversea supply of mineral oils and oil products.

Dr. Wagner, it will be seen from these extracts, has conducted his enquiry throughout in a judicial and scientific spirit and reached eminently sound conclusions.

The report of the Transvaal Gold Mining Estates for the quarter ended September 30 shows that during the quarter native labour has been insufficient and consequently development and prospecting operations have been hampered, and there was a decrease of 850 tons in the milling at the central works. Working costs, however, were reduced by over 1s. 9d. per ton, in spite of the ever-increasing cost of supplies and labour. A severe storm in August seriously damaged the Driekop plantation and affected all operations for that month. A good deal of prospecting has been done on the Portuguese horizon, especially in the Jubilee and Theta Extension Hills without as yet tangible results, though promising indications have been met with. The same may be said of the work on Grootfontein. Development at Ponieskrantz North continues satisfactory: in the neighbourhood of 100,000 tons of about 8½ dwt. ore are now developed there. At Brown's Hill development has also been promising, elsewhere results have been discouraging. Work on the alluvial on Finsbury and Nooitgedacht has been stopped owing to failure to prove payable areas of sufficient size. At Elandsdriif development results continue encouraging, but the large quantity of water encountered tends to hamper operations in depth. Five light stamps are crushing rock from the low grade extension of the Blow, where it is hoped to prove the existence of a considerable tonnage of payable, if low valued, ore. The wattle plant is working smoothly, 120 tons of bark have been disposed of at satisfactory prices. At Vaalhoek the position has somewhat improved, better ore being disclosed in the dyke leader, while in the River section work on the Glynn's reef bids fair to disclose an area of good payable ore. The reef is, however, patchy in value and variable in width. Dividend No. 23 of 5 per cent. was declared on the 26th September, payable to shareholders registered at 30th September, 1917. Warrants will be issued in November.

RAND ORE RESERVES AND SHAREMARKET PRICES.

The following table setting forth the value of the ore reserves of certain Rand mines in relation to the market price of the shares has been prepared by one of the leading Johannesburg firms of stockbrokers. It represents a considerable amount of careful labour, and should prove of distinct value to investors.

COMPANY.	No. of Shares Issued.	Approximate Reserve (Tons).	Approx. Value of Ore Reserve per ton.*	Approx. Working Profit per ton.	Approx. Working Profit per Share in sight.	Market Price.	Percentage of Market Price in sight.	Approximate Life.
Brakpan Mines	760.000	3.307.000	38/6	15/-	65/3	5/10/-	59%	Long
City & Suburban (£4) ..	340.000	602.000	37/-	10/6	18/6	23/6	78%	5 years
City Deep	1.250.000	3.676.000	37/9	18/6	54/3	65/-	83%	Long
Geduld Props	970.000	2.150.000	31/-	10/-	22/-	44/-	50%	Long
Government Areas	1.400.000	6.000.000	30/3	11/-	47/-	75/-	62%	Long
Meyer & Charlton	200.000	513.000	60/9	35/-	90/-	5/-/-	86%	9 years
Modder "B"	700.000	3.372.000	38/9	25/-	6/-/-	8/10/-	70%	Long
Modder Deep	500.000	3.220.000	35/3	23/-	7/8/-	7/10/-	99%	17 years
New Heriot	115.000	478.000	32/-	10/-	41/6	34/-	122%	6 years
New Kleinfontein	1.151.540	2.944.000	22/6	5/9	14/9	19/-	77%	—
New Modder (£4)	350.000	8.914.000	35/9	24/-	30/10/-	23/10/-	130%	Long
Nourse Mines	827.821	2.160.000	27/-	4/9	12/3	19/-	64%	Long
Springs Mines	1.000.000	1.784.000	41/6	20/6	36/6	74/-	49%	Long
Sub Nigel	475.000	359.000	43/3	14/9	11/3	25/-	45%	—
Van Ryn Deep	1.196.892	2.400.000	36/6	24/-	48/-	73/-	66%	Long
Wolhuter	860.000	1.302.000	25/3	6/6	9/9	8/-	122%	5 years

* The effect of Sorting increases the value of recovery.

The figures given are based as closely as possible upon published returns, and are, of course, subject to continual fluctuations.

The Ore Reserve value is, in profit results, subject to sorting, while on the other hand it is also affected by Profit, War. Miners' Phthisis taxes and other features, in addition to recognised Working Costs.

Goerz Group Quarterly Reports.

Geduld Proprietary Mines.—The total yield was 39,131 ozs., valued at £165,547, equal to £1 10s. 3d. per ton milled. The revenue amounted to £167,401 and the working expenditure £108,010, leaving a balance of £59,391. In the statement of revenue and expenditure no allowance has been made for income taxes. The dividend tax, amounting to £5,388 17s. 9d., in respect of dividend declared on the 13th June last, was paid during the quarter. The overhauling of 20 stamps of the old mill is completed and these stamps are running satisfactorily. Work on a second 20 stamps is nearing completion and when these are in commission, about the end of the current month, the final 20 will be taken in hand.

Modder Deep Levels.—The total yield was 57,580 ozs., valued at £243,735, equal to £1 19s. 4d. per ton milled. The revenue amounted to £245,660 and the working expenditure £100,678, leaving a balance of £114,981. The dividend tax, amounting to £22,222 4s. 5d., in respect of the

dividend declared on the 13th June last, was paid during the quarter. An additional tube mill has been installed and was put in commission on the 10th September. This has increased the capacity of the reduction works by about 2,000 tons per month.

Princess Estate and G.M. Co.—The total yield was 20,015 ozs., and in value £84,612, equal to £1 5s. 3d. per ton milled. The revenue amounted to £85,433 and the working expenditure 82,012, leaving a balance of £3,421.

Manicaland Output.

The mineral output of the Territory of the Companhia de Moçambique (Manicaland) for the month of September, 1917, was as follows:—Reef: Mill: Gold won (fine), 27 ozs. 16 dwts. 14 grs.; tons crushed, 471; value, £115 6s. 6d. Alluvial: Gold won (fine), 719 ozs. 15 dwts.; cubic metres dredged, 89,120; value, £2,983 13s. 7d. Copper: Copper declared, 18.75 tons (approximate); value, £1,875.

THE OUTLOOK FOR THE GREATER SPRINGS MINES.

Official Outline of Financial and Technical Programme.

The following circular has been sent to the shareholders of the Springs Mines, Ltd.: "We beg to inform you that, in response to Government Notice No. 711, dated the 28th May, 1917, your directors, acting on behalf of shareholders, tendered for the lease of the mineral rights of the eastern portion of the farm De Rietfontein No. 11, on the basis of an amalgamation between Springs Mines, Ltd., 1,332 claims; De Rietfontein East Area, 2,236 claims; total, 3,568 claims, which tender has been provisionally accepted by the Government. Attached hereto is a report by your consulting engineer, showing briefly the technical details of the tender, from which it will be seen that an amount of approximately £850,000 will be required to carry out the proposed scheme of immediately sinking one shaft, development, and extension of the reduction plant. A second new shaft will eventually be necessary, for which financial provision has been made. It is the intention of the directors in due course to extinguish the debenture debt, and an amount of approximately £300,000 will be earmarked for that purpose. An agreement has been entered into with The Consolidated Mines Selection Company, Ltd., by which that company undertakes: (1) To take up 200,000 ordinary £1 shares in Springs Mines, Ltd., at £3 per share (which was the market price at the date when the agreement was arranged), the proceeds to be applied to shaft sinking and development, £300,000; to redemption of debentures, £300,000. (100,000 of these shares will be taken up on signing of the lease, and 100,000 as and when required for the redemption of the debentures.) (2) To loan and advance, or to procure the loan and advance by others, to Springs Mines, Ltd., as and when required by that company and/or the Minister of Mines, all such further sums as may be required for shaft sinking, preliminary development and equipment. The loan will bear interest at the rate of 1 per cent. above the Bank of England rate for the time being, with a minimum of 6½ per cent., and is to be repaid by annual instalments of not less than £100,000, commencing from the 31st December, 1923. (3) To surrender to Springs Mines, Ltd., debentures of that company of the nominal value of not less than £70,000 against payment by Springs Mines at the rate of £96 per cent. In consideration of these undertakings, The Consolidated Mines Selection Company, Ltd., has been granted an option for five years to call up to 300,000 ordinary £1 shares in Springs Mines, Ltd., at £3 per share, the moneys derived from the exercise of this option to be applied, in so far as may be necessary, in the reduction of any moneys loaned and advanced in terms of the agreement. No commission will be paid to The Consolidated Mines Selection Company, Ltd., in respect of the guarantee of the loan. The acquisition of the Government lease will not defer the dividend-paying stage. The directors desire to congratulate shareholders on the success which has been attained. They would point out that the more favourable developments of the property have been in the southern portion of the mynpacht, and indications point to the continuation of this favourable development into the new area, which opens an encouraging vista of prosperity for your Company."

CONSULTING ENGINEER'S REPORT.

The report of the Consulting Engineer, Mr. A. E. Knecht, is as follows:—I herewith beg to submit a brief description of the proposed scheme for working the Government Lease Area comprising the eastern portion of the Farm De Rietfontein No. 11. It is proposed to work the lease area mentioned, together with the Springs Mines, as an amalgamated property.

Shafts and Connections.—One new shaft (No. 3) will be started at once. This when completed will provide, with the present Springs Mines shafts, three hoisting shafts, which will serve the greater portion of the amalgamated area. It is proposed to locate No. 3 shaft in line with the main south incline from the south shaft of Springs Mines, and at a distance of 4,000 feet from the southern boundary of the Springs Mines mynpacht. This position will enable the connection with the south shaft to be effected by the time No. 3 shaft reaches the reef horizon. It is estimated that the proposed No. 3 shaft will have a depth of about 4,000 feet, and, under average conditions, it should be completed in about

four years. It will probably be necessary at some future time to sink another shaft, to provide economical hoisting, and convenient access for workmen and material in the most southerly portion of the area. This additional shaft need not be completed until the one contributory to the present Springs Mines north shaft is nearing exhaustion, when it will be necessary to replace the ore sent to the reduction plant from that shaft by ore drawn from the southern portion of the amalgamated property.

Development.—At the present time the face of the main south incline from the south shaft is at the southern boundary of the Springs mynpacht, and it is therefore only necessary to start up this face to at once enter and develop the lease area. It is proposed to immediately push development with all possible speed, not only at all available faces in the Springs Mines area, but also to push the main south incline into the lease area, and at suitable points to start subsidiary haulage ways east and west. Secondary development will also be undertaken in the payable shoots opened by the main arteries. The west haulage from the Springs Mines north shaft will at the same time be advanced as rapidly as possible, as will also the western headings of Springs Mines, viz., the 6th, 7th, 8th and 9th levels. The eastern headings of Springs Mines will also be driven as speedily as circumstances permit. The 11th level and 13th haulage west from the south incline are now being rapidly extended. The haulage has been laid out in a direction parallel to the southern boundary of the Springs Mines mynpacht, and at a distance of 60 feet therefrom. Winzes will be sunk into the lease area at suitable points as the work proceeds. By the adoption of the development proposals mentioned, it will be possible to rapidly develop the lease area at once, and large ore reserves will have been established by the time the new shaft is completed, which will enable the contemplated ultimate milling capacity to be reached as soon as the new shaft is available for hoisting.

Milling Capacity.—The ultimate milling capacity of the amalgamated property will depend upon the reef conditions met with in the unexplored areas. Under the proposals outlined, large tonnages can be dealt with if development warrants. The crushing capacity of Springs Mines is now nominally 30,000 tons per month, and orders have been placed locally to increase this up to 40,000 tons. It is expected that the increased scale of crushing will be brought into commission about the end of the current year. It will be the policy to still further increase the milling capacity during the next five years as the development position warrants and the necessary plant can be secured. It is proposed ultimately to provide a reduction plant capable of dealing with 1,400,000 tons per annum, to come into operation in five years, this being, of course, contingent upon development, in the meantime, opening up ore bodies to warrant this capacity.

Capital Expenditure.—The capital expenditure required for shaft sinking and development during the first five years is estimated at £450,000, and for equipment a further £100,000.

Government's Participation in Profits.—(a) During a period of five years from the 1st January, 1918, 5 per cent. of the annual profits (as defined in the Mining Taxation Act (No. 6) of 1910) of the amalgamated property. (b) Thereafter, during the profitable life of the amalgamated property, according to the following formula, the minimum percentage payable being 12½ per cent.:

$$y = 55 - \frac{1175}{x}$$

where x is the ratio of profit to recovery expressed as a percentage, and y is the percentage of profit payable to Government. (c) In addition, any taxation that is now or may hereafter be imposed by statute on mining. The Government's participation (exclusive of taxation) for various ratios of net profit to recovery is as follows:—Ratio of net profit to recovery, up to 27.6 per cent., Government's participation, 12.5 per cent.; up to 30 per cent., 15.8 per cent.; up to 35 per cent., 21.4 per cent.; up to 40 per cent., 25.6 per cent.; up to 45 per cent., 28.9 per cent.; up to 50 per cent., 31.5 per cent.; up to 55 per cent., 33.6 per cent.; up to 60 per cent., 35.4 per cent. It will be found upon analysis that the sliding scale provides for increased profits earned in consequence of a reduction of working costs being divided in the proportion 55 per cent. to the Government and 45 per cent. to the company, whilst of increased profits due to increased yield the Government will receive 43.25 per cent. and the company 56.75 per cent.

Monteleo Diamonds.

The secretary of Monteleo Diamonds, Ltd., reports the following results of mining and washing operations of the company during October: Reef and overburden hauled, 6,104 loads; yellow ground washed, 3,379 loads; diamonds recovered, 858½ carats; average recovery, 25.11 carats per 100 loads.

THE POSITION OF THE E.R.P.M.

THE report of the directors of the East Rand Proprietary Mines for the quarter ended September 30 last says, *inter alia*:—At the last annual meeting, the chairman stated that a working profit of from £22,000/£25,000 was required to meet items of fixed expenditure, such as interest on and redemption of debentures, war leave, compensation to miners' phthisis, etc., towards which the working profit for the current quarter has amounted to only £2,926. There being no other funds in hand, any cash deficiency must be made good from the mine development suspense account, which at the end of the quarter showed a credit of £333,777, and of which the sum of £7,292 has already been so drawn. The supply of native labour for a considerable time past has been very restricted and the wastage heavy, consequently it has not been possible to work the mine to the best advantage. The grade of ore being mined has fallen 3s. 8d. per ton during the current year, as compared with 1916. This is chiefly due to the unavoidable milling of a considerable portion of the low grade development rock produced by the extensive development programme started six months ago. Under the present conditions of extreme shortage of native labour and gradually increasing prices of stores, etc., it is clear that the company cannot earn profits sufficient to meet the above fixed expenditure and at the same time prosecute fully the development programme which was set forth at the annual meeting and has been in operation during the past six months. Your board, satisfied that there is no indication in the near future of any material improvement in either the supply of labour or in a reduction of costs, has considered the position of your company from all points of view. In their opinion one of two courses must be followed in the best interests of shareholders. (a) To curtail development operations to known payable and most favourable areas, thereby considerably decreasing the development expenditure; (b) to discontinue milling operations during the war pending the resumption of a normal supply of native labour and a reduction in cost of stores. The latter cannot be entertained, as after reducing all expenditure to the lowest limit it is estimated that the fixed charges, pumping and caretaking, would require an amount of £24,000 per month. This would rapidly exhaust the balance of cash. The board has decided, therefore, to adopt the first course and to modify the development programme referred to by the chairman. With the exception of the sinking of the vertical shaft and a continuation of the 26th level crosscut to intersect the vertical shaft, development operations will be confined virtually to the Driefontein section and east of the Cinderella Consolidated eastern boundary. These areas give the most promising indications at the present time, but the actual amount of development therein will depend on the percentage of payability disclosed. The cost of this work will be charged direct to working costs as from 1st November, 1917, instead of the former charge of 2s. 6d. per ton milled. It is hoped by following this course and by exacting the utmost economy that sufficient profits will be earned to defray the cost of fixed charges. It is clear that the adoption of this programme will involve the rapid exhaustion of the ore reserves with no provision for their replacement except by such payable tonnage as may be developed in the Driefontein and East Cinderella sections before-mentioned. As your directors consider that the greatest hope of finding a payable mine lies in the southern area, they are of opinion that the best interests of shareholders will be served by continuing the sinking of the vertical shaft and by extending the 26th

level crosscut if the steps which have been taken are successful in sealing up the vast quantities of water which have been encountered there. The cost of these works will be borne by the mine development suspense account. Whether, indeed, this policy can be continued, depending as it does on the profits which can meantime be earned, will be more clearly known in a few months' time. If heavy differences between expenditure and revenue have to be met out of the present mine development suspense account, the exploitation of the southern areas cannot be continued. There has been no improvement in development results since the annual meeting, when the grave and discouraging position was fully set forth. During the five months ended 30th September last the following results have been obtained by the footage sampled in drives:—

PAYABLE.

Section.	Footage Sampled.	Per Cent.	Reef Channel Width.	Reef Channel Value.	Inch. Dwts.
Driefontein	745	46	28	15.5	434
Angelo	180	13	25	11.0	275
Comet	160	27	36	13.0	468
Cason	169	6	39	9.4	367
*Angelo Deep	491	64	17	22.4	381
Hercules	545	17	21	22.3	468
Cinderella	190	25	43	9.6	413
E.R.P.M.	2,480	22	25	16.6	415

UNPAYABLE.

Driefontein	858	54	16	4.8	77
Angelo	1,182	87	33	3.9	129
Comet	435	73	29	3.0	87
Cason	2,890	94	35	3.4	119
*Angelo	280	36	18	5.8	104
Hercules	2,750	83	19	4.4	84
Cinderella	570	75	23	3.6	83
E.R.P.M.	8,965	78	26	3.8	99

*Most of the drives in this section have been stopped owing to water preventing work being continued.

The payable tonnage estimated to have been developed for the nine months ended 30th September totalled 267,000 tons, as compared with 841,300 tons mined from the ore reserves.

CORRESPONDENCE AND DISCUSSION.

High Explosives and the Inventor.

To the Editor, *South African Mining Journal*.

Sir,—With reference to the letter appearing in your journal of the 3rd November relative to high explosives, we shall be obliged if you will kindly give us the name and address of the writer, as we are always willing to facilitate the preliminary work in such a venture, and to suitably reward the inventor of any idea which can be utilised.—Yours, etc.,

THE BRITISH SOUTH AFRICAN EXPLOSIVES COMPANY, LTD.,
JOHN HUNGERFORD,
Acting Local Secretary.

Government Square, Johannesburg,
6th November, 1917.

[Will "F. C.," the writer of the letter in question please communicate direct with the B.S.A. Explosives Co.—Ed.]

MINING EXAMINATIONS.

Study for Certificates as Mine Captains, Mine Managers, Surveyors, Mechanical and Electrical Engineers, and Engine Drivers. Private Tuition and Correspondence Lessons, where personal tuition is impracticable. Practical Mathematics and Electrotechnics. E. J. MOYNIHAN, Consulting Engineer, Cuthbert's Buildings, corner of Eloff and Pritchard Streets, Johannesburg, P.O. Box 2061.

The Sheba.

The following is the output of the Sheba for the month of October:—Crushed, 6,261 tons, yielding 1,730 ozs.; working expenses, £6,888; development, £1,250; estimated loss, £1,230.

THE OCTOBER GOLD OUTPUT: GROUP RETURNS.

Rand Mines Group.

The following are the results of crushing operations of the Rand Mines/Central Mining companies for the month of October:—

Company	No. of Stamps Running.	Tube Mills.	Tons crushed.	Total Fine Ozs.	Total Estimated Profit.	Estimated Working Costs per Ton.
Bantjes Cons. ...	90	3	18,630	5,645	*£472	25/ 8.5
City Deep ...	154	9	60,000	28,648	46,966	23/ 11.1
Cons. Main Reef	110	3	22,600	9,381	11,716	24/ 2.1
Crown Mines ...	660	26	171,000	50,263	40,046	19/ 9.1
Dur. Rood. Dp.	100	3	23,800	8,161	2,756	26/ 2.0
East Rand Prop.	820	25	144,300	34,825	586	20/ 0.0
Ferreira Deep ..	280	7	45,800	16,825	17,586	22/ 10.4
Geldenhuis Dp..	300	7	56,500	15,045	4,235	20/ 7.7
Knight Central..	120	3	27,200	6,959	1,414	20/ 3.0
Main Reef West	110	3	25,520	7,243	3,744	20/ 8.2
Modder B. ...	96	6	43,500	26,698	69,696	19/ 0.1
New Modder ...	180	7	56,000	29,760	64,528	21/ 1.9
Nourse Mines ..	180	5	39,300	12,534	6,542	23/ 2.0
Robinson ...	230	6	50,000	13,051	15,395	15/ 6.1
Rose Deep ...	300	7	58,500	17,398	25,026	16/ 2.1
Village Main R.	160	4	26,200	9,273	13,647	19/ 0.2
Wolluter ...	120	4	33,550	9,823	11,415	17/ 6.6
Village Deep ...	180	7	49,400	17,895	14,271	24/ 4.2
Wit. Deep ...	205	5	35,830	9,304	2,315	21/ 2.5

Tls. & averages 4395 140 987,630 328,731 351,412 20/ 7.1

A Includes 4 Nissen stamps. B Includes 16 Nissen stamps.

* Loss.

Modderfontein B. Gold Mines, Ltd.—Stope values continue to be above those called for by block valuation.”

City Deep, Ltd.—Native labour position very bad.

Crown Mines, Ltd.—Reduction in profit due to lower grade recovered.

Albu Group.

The following information is officially supplied regarding the October outputs of the producing mines of this group:

Company.	Stamps.	Tons Crushed.	Total Cost.
Aurora West ...	80	15,500	£14,264
Meyer and Charlton ...	75	12,356	14,253
New Goch ...	120	18,750	15,077
Roodepoort United ...	80	28,076	29,907
Van Ryn Estate ...	140	35,850	29,842
West Rand Consolidated ...	100	36,090	33,709
	595	146,622	£137,052

Company.	Cost per Ton.	Total Revenue.	Profit.
Aurora West ...	18/ 4.9	£17,398	£3,134
Meyer and Charlton ...	23/ 0.8	41,524	27,271
New Goch ...	16/ 1.0	18,456	3,379
Roodepoort United ...	21/ 3.7	30,568	661
Van Ryn Estate ...	16/ 7.8	41,085	11,243
West Rand Consolidated...	18/ 8.2	35,742	2,033
		£184,773	£47,721

Meyer and Charlton.—The profit for October must be regarded as abnormal for similar reasons to those stated in the note attached to the September output. The percentage of ore taken from Main Reef Leader stopes in October was 61 per cent., as compared with approximately 80 per cent. for September.

Barnato Group.

The results of operations of the Barnato group for October are as follows:—

Mine.	Stamps.	Tons Crushed.	Revenue from Gold
Consolidated Langlaagte ...	100	43,200	£56,885
Ginsberg ...	75	14,650	14,094
Glencairn ...	160	22,100	11,167
Government Areas ...	200	106,500	158,825
Langlaagte Estate ...	200	14,550	48,651
New Primrose ...	140	18,500	15,515
New Unified ...	60	11,000	13,230
Randfontein Central ...	600	173,700	244,044
Van Ryn Deep ...	80	49,000	69,190
Witwatersrand ...	215	38,050	45,884
Totals and averages ...	1830	524,260	£670,485
September totals ...	1830	501,966	£655,240

Mine.	Total Working Costs.	Working Costs per Ton Milled. Shillings.	Gross Profit including Sundry Revenue.
Consolidated Langlaagte ..	£40,748	18.861	£16,315
Ginsberg ...	12,755	17.413	1,439
Glencairn ...	13,071	11.829	1,250
Government Areas ...	101,020	18.971	58,259
Langlaagte Estate ...	39,579	17.764	9,182
New Primrose ...	13,767	14.883	1,834
New Unified ...	9,769	13.956	3,536
Randfontein Central ..	168,930	19.451	36,007
Van Ryn Deep ...	45,064	18.393	56,065
Witwatersrand ...	32,627	17.150	14,713

Totals and averages... £477,330 18.210 £198,600

September totals ... £462,119 18.412 £197,550

Monthly Gross Profit, 1917.—January, £232,859; February, £213,944; March, £225,477; April, £210,598; May, £200,264; June, £206,506; July, £203,650; August, £209,489; September, £197,556; October, £198,600.

Transvaal Gold Mining Estates.

The following are the particulars of this company's output for the month of October, 1917:—Central Mines: Tons crushed, 12,900, yielding 5,615 fine ozs. Elandsburg Mine: Tons crushed, 1,500, yielding 1,116 fine ozs. Vaalhoek Mine: Tons crushed, 2,040, yielding 716 fine ozs. Estimated value of month's output, £30,895. Estimated profit for month, £10,656.

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Consolidated Mines Selection Group.

The following are the results of operations for the month of October:—

			Stamps Working.	Tons Milled.	Working Cost per Ton Milled	
Brakpan Mines	135	63,000	19/	8.75
Springs Mines	60	31,500	22/	5.30
Totals and averages			...	195	94,500	20/ 7.30
			Value of Gold declared.	Yield per Ton.	Working Profit.	Working Profit per Ton.
Brakpan Mines	...	£107,231	34/	0.50	£45,083	14/ 3.75
Springs Mines	...	67,798	43/	0.56	32,452	20/ 7.26
Totals and averages		£175,029	37/	0.51	£77,535	16/ 4.91

Consolidated Gold Fields Group.

The following are particulars in regard to the outputs and profits for the month of October of the undermentioned companies of the Consolidated Gold Fields group:—

Company.	No. of Stamps.	Tube Mills.	Tons Crushed.	Gold declared. Fine Ozs.	Total Profit.
Simmer and Jack ...	320	7	61,800	15,845	£17,479
Robinson Deep ...	130	8	19,200	15,772	10,330
Knights Deep ...	400	11	100,700	16,521	1,501
Simmer Deep ...	220	10	49,100	11,667	5,633
Jupiter ...	80	5	26,400	7,092	5,292
Sub Nigel ...	30	2	10,070	5,623	7,728
Totals ...	1180	43	297,270	72,520	£47,963

Reserve Gold.—Simmer and Jack, 6,550 ozs.; Simmer Deep, 1,460 ozs.; Jupiter, 1,100 ozs.; Sub Nigel, 2,466 ozs.; total, 11,576 ozs.

The sundry revenue included in the above total declared profit is as under: Simmer and Jack, £1,500; Robinson Deep, £20; Knights Deep, £128; Simmer Deep, £513; Jupiter, £51; Sub Nigel, £15; total, £2,257.

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Goerz Group.

Results of operations on the producing mines of this group for the month of October:—

Company.	Stamps.	Tons Crushed.	Total Revenue.	Revenue per ton
Geduld Proprietary	80	37,500	£57,491	30/ 8
Modder Deep Levels ...	70	44,100	85,870	38/11
Princess Estate	60	22,800	29,478	25/10
Totals	210	104,400	£172,839	—
Company.	Costs.		Profit.	
	Total.	Per Ton.	Total.	Per Ton
Geduld Proprietary ...	£37,371	19/11	£20,120	10/ 9
Modder Deep Levels ...	35,564	16/ 1	50,306	22/10
Princess Estate	28,227	24/ 9	1,251	1/ 1
Totals	£101,162	—	£71,677	—

Glynn's Lydenburg.

The following are the particulars of this company's output for the month of October, 1917:—Tons crushed, 4,170, yielding 1,912 fine ozs.; estimated value of month's output, £7,952; estimated profit for the month, £2,981.

PERSONAL.

Mr. G. A. Denny has accepted an appointment on the staff of the Minister of Munitions and is returning from Australia to England by way of the United States.

* * * *

Arrangements have been provisionally made by the South African Institution of Engineers for a visit to White's South African Portland Cement Works at Ventersburg Road on the 24th November next.

* * * *

General regret was expressed at the news of the accidental death at Capetown this week of Mr. Charles Lipp, the General Manager of the African Banking Corporation. Mr. Lipp was known throughout South Africa as one of the most able financial authorities in the country, and his death will be a great loss to the Corporation.

* * * *

The Minister of Mines and Industries has returned to Pretoria, and it is hoped that his return will be followed by a further accession of activity on the Far East Rand. One at least of the areas—De Rietfontein West—withdrawn last week from public tender is expected to be again offered by the Government at an early date.

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THE WEEK IN THE SHAREMARKET.

Springs Engross the Market.

The market opened on Saturday morning with the usual flutter in Government Areas and Springs Mines, the latter reaching 73s. 9d. At the call within a few minutes later, the first sale was booked at 71s. 6d. and the last at 70s. 6d. There was no apparent reason for this sudden drop. The market generally was weaker, with the exception of Government Areas, Pretoria Cements and the Modderfontein lot. Tins were a shade harder. Big things are evidently expected of New Modderfontein by the amount of forward buying that has taken place of late. This morning no less than £25 10s. was paid for six months' buyer's option, or £1 5s. above the cash price. It appears now that the sudden drop on Springs was owing to the news of the allotment of the reserve shares. That this was correct is confirmed by the issue of the circular. Exception is taken to the option which the Mines Selection have taken on 300,000 shares at 60s. for five years. At the call business was restricted. The Modder group came unchanged, except for an improvement in Deeps. Consolidated Mines and Rand Selections were the turn harder. When it came to Springs, the bulk of the members crowded into the centre of the hall, and for some minutes there was confused shouting, from which finally information emerged that sales had been concluded at 69s. 6d. and 69s. 9d., closing buyers at the former figure. In the morning the price improved to 70s. 6d. and 70s. 9d. and closed at 71s. On Tuesday morning Springs made a further recovery to 72s. 6d., losing 3d. on this price at the call. The strongest features were Brakpans and Modder Bs. There was further selling out of the four-year Options, which lowered the price. On the whole, the general tone was better. The market was quiet throughout the day, Springs closing at 71s. 6d. Prices were lower all round at Wednesday's call, with the exception of City and Suburban, City Deeps, and Modder Easts. Springs, after an opening sale at 71s. 3d., fell to 70s. 9d. sales and buyers. At the moment no one seems to know where they are with this stock. On Thursday morning Springs opened at 70s. 9d. and lost 9d. at the call. Prices were generally lower. Modder Easts have been worked at 1½d. difference all the week without change, but the Options have steadily dropped. The new Anglo-American corporation made its first appearance. The capital is one million, of which 20,000 shares are fully paid, and these alone are quoted. The price offered was 30s. without any response from sellers, the probability being that there are none in the market. The record of outside stocks for the week is as under:—Sales: Montealeos, 49s. 6d. to 45s.; South Van Ryns, 12s. 3d. to 12s.; Invictas, 21s. 6d. to 22s. 6d.; Compound Diamonds, 5s. to 4s.; Phoenix, 11d.; S.A. Alkalis, 95s. to 90s.; Sakalavas, 7s. 6d. to 7s. Buyers and sellers: Union Tins, 3s. 6d., 4s.; Henderson's Estates, 5s. 4d., 5s. 6d.; Riet-spruits, 12s., 15s.; Union Miccas, 15s. 3d.; Union Corundums, 13s.; Areachaps, 2s. 6d. The present price for Union Fives, ex interest, is £99 15s.

* * * *

The market has taken the Russian muddle rather seriously, as the amended list of prices at Friday morning's call will show. The only two stocks which rose in face of the general slump being Pretoria Cements, Modder Bs. and Lace Props, of which the market was cleared at 8s. Sales: City Deeps, 62s. 6d. and 62s. 3d.; Mines Selections, 27s.; City and Suburbans, 20s.; Consolidated Investments, 19s.; Geduld Props, 38s. 9d. and 38s. 6d.; Government Areas, 73s. 3d.; Jupiters, 4s. 4d.; Lydenburg Farms, 7s. 4d.; Lace Props, 8s.; Modder Bs, £8 17s.; Modder East, 21s.; Randfonteins, 13s.; Rooibergs, 9s. 9d.; Springs, 68s. 6d. and 68s. 3d.; Van Ryn Deeps, 72s.; Wolluters, 5s. 3d. Buyers and sellers: Modder East three-year Options, 7s. buyers; four-year, 7s. 9d., 8s. 2d.; New Modders, £24 10s. sellers; Pretoria Cements, 92s. 6d., 95s.; Rand Selections, 88s. 9d., 91s.

	Fri. 2nd.	Sat. 3rd.	Mon. 5th.	Tues. 6th.	Wed. 7th.	Thurs. 8th.
African Farms . . .	8 2*	8 1*	8 0*	8 1*	8 1*	8 0*
Anglo-American Corp.						50 0*
Apex Mines . . .	7 1	—	7 0*	7 0*	7 0*	7 0*
Bantjes Cons. . . .	2 9	2 9*	2 10*	2 10	2 7*	2 10
Brakpan Mines . . .	112 6*	111 3*	—	116 0*	115 0*	113 9*
Breyten Collieries .	—	—	—	8 0*	—	—
Brick and Potteries .	5 0*	—	—	5 0*	—	—
British S. Africa .	—	11 6	15 0*	15 0*	15 0*	15 0*
Bushveld Tins . . .	0 6*	0 6*	0 6*	0 6*	0 6*	0 7+
City & Suburbans .	22 3	20 0*	20 3*	20 6*	21 0	20 9*
City Deeps	63 0	62 6*	62 0*	62 6*	63 0	62 9
Cloverfield Mines .	8 0*	8 6*	8 6*	8 6	8 6	8 3*
Clydesdale Cols. . .	12 0*	12 0*	12 0*	—	12 0*	—
Concrete Construc. .	2 6	2 6*	—	2 6*	—	—
Con. Investments . .	19 0*	—	19 0*	19 0*	19 0*	19 0*
Con. Langlaagtes . .	18 6*	—	19 0*	—	—	20 0*
Con. Main Reefs . .	14 9*	14 9*	15 0	14 6*	14 6	15 0*
Con. Mines Selec. .	27 0	27 3*	27 6	28 0	27 6*	27 6*
Coronation Cols. . .	—	—	—	—	—	32 6*
Coronation Freeholds	0 3*	0 3*	0 3*	0 3*	0 3*	0 3*
Crown Diamonds . .	1 3*	1 3*	2 0*	1 6*	1 3*	—
Crown Mines Deb. .	£98†	—	—	£98†	£98†	£98†
Daggafontein Mines	26 0	25 6*	25 6*	26 0*	25 6*	25 9
Do. Options (3 yrs.)	11 9†	11 3*	11 0*	11 6	11 9	11 6*
Durban Road. Deeps	—	12 6†	12 6†	12 6†	—	—
East Rand Coals . .	2 1*	2 1*	2 1*	2 1*	2 1*	2 1*
East Rand Deeps . .	0 11*	0 11*	0 11*	0 10*	0 10*	0 11*
E.R. Minings	—	17 6*	—	17 6†	—	17 6†
East Rand Props. . .	6 6*	6 6	6 9†	7 0†	7 0†	6 6†
East Rand Deb. . . .	£63*	£63*	£63*	£63*	£62*	—
Eastern Golds . . .	1 2*	1 2*	1 1*	1 1*	1 1*	1 3*
Ferreira Deeps . . .	—	—	—	—	16 0†	16 0†
F. Smith Diamonds	3 6*	3 6*	3 6	3 3*	3 3*	3 3*
Geduld Props. . . .	40 0*	40 0	39 6	39 9	39 9	39 3*
Geldenhuis Deep . .	—	—	—	22 6†	22 6†	22 6†
Glencairns	1 0*	1 0*	1 0*	1 3*	1 3*	1 3*
Glencoe Collieries .	8 3*	8 0*	—	8 0*	—	8 0*
Glynn's Lydenburgs	17 6*	17 6*	17 6*	17 6*	17 6*	—
Government Areas .	75 0	76 0	76 3	76 1½	76 0	75 0
Jupiters	4 6	4 7*	4 9*	3 9*	4 9*	4 7*
Knight Centrals . .	2 9*	2 10*	2 10*	2 10*	2 9*	2 10
Knights Deeps . . .	8 0†	8 0†	8 0†	—	8 0†	8 0†
Lace Props.	7 6	7 9	7 9*	8 1*	7 11	7 7
Leeuwpoot Tins . .	14 0	14 0*	14 3†	14 3†	—	—
Luipaardsvlei Estate	—	—	5 0*	5 0*	5 0*	5 0*
Lydenburg Farms . .	7 6	7 6	7 4*	7 6	7 6	7 5*
Main Reef Wests . .	3 0*	3 0*	3 0*	3 0*	3 0*	3 0*
Meyer & Charltons .	103 9*	103 9*	—	107 0†	103 9*	—
Middelvlei Est. . . .	1 10*	1 0*	1 0*	1 0*	1 0*	1 0*
Modder B.'s	172 6*	172 6*	172 6*	177 6B	176 6*	180 0A
Modder Deep	149 0*	150 0*	153 6*	154 0	154 0*	155 0†
Modder Easts	21 0*	21 1†	21 4†	21 3	21 4†	21 3
Do. Options (3 yrs.)	7 8	7 9	7 8*	7 8*	7 8	7 6*
Do. Options (4 yrs.)	8 2	8 3*	8 3*	8 2	8 1	8 0
Natal Navig. Col. . .	20 0*	20 0*	20 0*	20 0*	—	—
National Banks . . .	260 0†	260 0†	—	255 0*	260 0†	260 0†
New Boksburgs . . .	1 3*	1 3*	1 3*	1 3*	1 3*	1 3*
New Eland Diam. . .	25 9*	26 0*	25 0*	25 3*	25 3*	25 6*
New Era Cons. . . .	—	11 0*	—	10 9*	10 10*	10 9*
New Geduld Deeps .	6 8*	6 7	6 6	6 8	6 7	6 6*
New Heriots	34 0†	35 0†	—	—	—	34 0†
New Kleinfonteins .	19 0	18 9*	18 9*	18 9*	18 9*	18 9*
New Modderfontein	480 0*	485 0	485 6*	485 0*	—	—
New Rietfonteins . .	1 4*	—	—	1 4*	—	—
New Unifieds	7 6†	6 6*	—	6 6*	6 6*	6 6*
Nourse Mines	19 0†	18 6*	18 6*	18 6*	18 6*	19 0*
Pretoria Cements . .	89 6	90 0*	91 0*	92 0*	90 0*	90 0*
Princess Estates . .	1 9*	1 9*	1 9*	1 9*	1 9*	2 0*
Rand Collieries . . .	3 3*	—	—	—	2 6*	—
Rand Klips	9 7*	10 0†	9 9*	9 7*	9 6	9 6*
Rand Nucleus	1 4*	1 4*	1 4*	1 4*	1 4*	1 4*
Rand Select. Corp. .	93 0	90 0*	91 0	92 6*	91 6*	92 6†
Randfontein Deeps .	4 3*	4 3*	4 3*	4 3*	4 3*	4 3*
Randfontein Est. . .	13 0*	13 0*	13 0*	15 0†	13 9†	12 9*
Rooibergs	9 1*	9 6*	9 6*	9 6*	9 6*	9 6*

*Buyers. †Sellers. A Odd lots. B Ex London.



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Rose Deeps	20 0†	20 0†	—	—	20 0†	—
Ryan Nigels	3 0*	3 0*	3 0*	3 0*	3 0*	3 0*
Shebas	—	—	—	—	1 4†	1 0*
Simmer Deeps	—	—	2 3*	2 4*	—	—
S.A. Breweries	—	—	29 0†	—	28 6†	24 0†
S.A. Lands	5 1	5 1*	5 0*	5 1*	5 1	5 1
Springs Mines	72 9	71 3	69 6	72 3	70 9	70 0
Sub Nigels	24 9	25 0	25 0*	25 0*	24 9*	24 3*
Swaziland Tins	—	26 0†	27 0†	26 0†	27 0†	27 0†
Transvaal Lands	12 9*	—	—	12 9*	—	12 9*
Trans. G.M. Est.	—	16 0†	14 0*	14 0*	15 6†	14 0*
Van Ryn Deeps	73 0	73 0	72 6*	73 0*	72 9	72 7½
Van Ryn Estates	16 0†	—	—	—	—	—
Village Deeps	20 3	20 0	19 0B	20 0†	20 0†	20 0
Village Main Reefs	15 0†	15 0†	—	—	15 0†	15 0†
Welgedachts	21 0*	—	21 0*	—	21 0*	—
Western Rand Est.	1 9*	1 9*	1 6*	1 9*	1 6*	1 9
Witwatersrands	31 0*	35 0†	30 0*	30 0*	—	—
Wit. Deeps	7 0	7 3	7 6*	—	7 3	7 3*
Wolluters	5 9*	5 6*	6 0†	6 0†	5 6	5 0*
Zaaiplaats Tins	8 6	8 11	8 9*	8 10	8 9	8 9*
Union 5 per cent.	—	—	—	£99 12 6*	£100†	£99 15

*Buyers. †Sellers. A Odd lots. B Ex London.

ANSWERS TO CORRESPONDENTS.

All enquiries addressed to the Editor must bear the writer's name and full address. We cannot reply to enquiries by letter, but telegrams with replies prepaid will be answered. Correspondents are requested to write their names and pseudonyms distinctly.

"Victim."—Very speculative. impossible to advise.

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"Fed-Up."—Your letter is libellous in parts, and its publication would serve no useful purpose.

DUST PREVENTION IN MINES.—I.

[By ARTHUR C. WHITTOME and J. H. VEASEY.]

The authors feel a certain amount of diffidence in presenting this paper, because it deals with such elementary details, and can only cover very elementary facts and theories. They wish, therefore, to at once disavow any intention of claiming to have made any discoveries of high theoretical importance, but they do claim that even statements and explanations of fundamental principles are of interest and value when considering the vital question of phthisis prevention. The authors do not wish in any manner to depreciate the value of the great work which has been carried out up to now in reducing the incidence of phthisis; their desire is to assist in carrying the good work still further. It is common cause that there has been a great reduction in the prevalence of phthisis amongst underground employees, and this country as a whole, and the Rand in particular, owes a great debt of gratitude to those earnest workers who, without advertisement or parade, have done so much for the industry, its underground workers, and humanity in general. It is equally common cause that there still remains much to be done, and, indeed, there will be no cessation of effort until miners' phthisis is as little prevalent as such diseases as small-pox and bubonic plague now are in European countries. It frequently occurs that intense effort is concentrated for a period in counteracting disabilities, and then, when moderately good results are attained, there is a slacking off and little further attention is directed to completing the work. Fortunately, this is not happening with phthisis prevention; indeed, there appears to be an increasing, instead of a diminishing, effort in the campaign. This is due, undoubtedly, to the fact that any reduction of precautionary measures would at once react in causing a rapid increase in the prevalence of the disease. The authors propose to deal with the subject under a number of main heads.

(1) *The allaying of dust and gases, and the improvement of ventilation—both as regards quantity and temperature of air—should be treated as one subject.*—A little thought will show that this statement is one of fact. As was pointed out by Dr. Orenstein and Mr. E. J. Laschinger in the discussion on a previous paper on Mine Ventilation, an intense ventilating current can cause a considerable amount of dust to be picked up by the air and carried through the workings; the ill effects of high temperature were also referred to on the same occasion. It necessarily follows that—if intense ventilation can cause dust to again circulate after it has been settled—the whole of the subjects mentioned in this heading must be considered at the same time. The use of water has proved to be the best means of allaying dust and some of the deleterious gases. The cooling of air can be accomplished best by the use of water. The use of water in mine workings reduces natural ventilation, and the more efficient the water system for allaying dust and gases and cooling the air the greater the retarding effect on the natural ventilating current. If these three statements are accepted as axioms—as they well may be—it naturally follows that some auxiliary means must be adopted to increase the rate of motion of the ventilating current. This may consist of a mechanical device—such as a fan—or the appliances used for allaying dust and gases may be designed to assist the ventilating current to an extent equal to, or in excess of, the retardation caused by the cooling effect of the water used. The obvious means, other than fans, for accelerating the ventilating current, is to have the water discharged in the direction in which the air is flowing, and, if the water is atomised by compressed air, the accelerating effect of the jet of air and water is very considerable. The discharge of the atomised water in the same direction as the flow of the ventilating current has one ill-effect, however, it being the inferior direction for the purpose of allaying dust, which is best attained by the atoms of water meeting the particles of dust. The principle of having the atomised water

stream flowing in the same direction as the air current can be carried too far, and at the points where the greatest amount of dust is formed all such streams should be opposed to the ventilation; as there would be only a portion, possibly from one-fifth to one-third, of the jets acting in this direction the net result would be to, either entirely or to a considerable extent, counteract the retarding effect due to cooling.

(2) *The water used for allaying dust and gases, and for cooling the air, can best be atomised by the use of compressed air.*—Water can be atomised in two ways: (a) By utilising high pressure and causing the water to be split into small particles by striking solid surfaces, or by causing it to issue in thin sheets or small jets as it is impelled into the air; and (b) by using compressed air to split it up. The latter is by far the more preferable, as the size of the atoms and the direction of flow can be much more easily controlled. The size of water atom or drop is a very important factor in the allaying of dust and gases. Large drops are of little—comparative—value, as they fall out of the air too rapidly. On the other hand, the water can be too finely divided, creating a "dry fog," which floats in the air for indefinite periods. The mean between the two is the most desirable, and there is little doubt that the correct condition is obtained when, with the ventilating current and water atoms flowing at equal velocity, the water atoms can be seen gradually falling; in any case only a small portion of the water should reach the footwall within 30 feet of the atomiser. Without the use of compressed air the issuing water is very imperfectly atomised, and the stream of atomised water cannot be directed in the exact direction required. A very heavy shower of mixed sizes of drops of water, varying from, perhaps, $\frac{1}{8}$ inch diameter down to dry fog, can be created, and a jet can be led somewhat in the desired direction, but only a very small portion of the water used is efficiently atomised, the balance falls to the footwall within a short distance from the atomiser, and, as it flows away to the pump sump, carries quantities of sludge and grit with it, which collect in the sump and cause trouble with the pumps. The same defect occurs with numbers of water-blasts using compressed air, far too much water being used and no attempt being made to prevent the formation of large-sized drops. The excess use of water is frequently made apparent in winzes, numerous cases in which these have been filled with water from the water-blasts being on record. The same excess quantity is used in all other development ends, but, as the water can flow away to the sumps, it is not so apparent. The fact that the size of water atom has a considerable influence on the effectiveness of the dust allaying has been proved by tests carried out by the Phthisis Prevention Committee, in September last, in the Apex Section of the New Kleinfontein. Two sets of tests were conducted. First, experiments with different proportions of water to air—determined by using different sized apertures on the water connection—in order to ascertain the quantity of water put into suspension in the air, at a distance of 30 feet from the water-blast or atomiser, by the different sized apertures, the water used varying, of course, with the size of aperture. Second, experiments to ascertain the dust-laying powers of the atomised water with the different proportions of water to air. In each case the "Apex" water-blast was the atomiser used. A description of the appliance is given later, from which it will be seen that by means of replaceable diaphragms or nozzles the quantity of air and water used are regulated independently of the whim of the person operating the appliance. In this series of tests a standard $\frac{1}{2}$ -inch diameter air nozzle was employed, the air pressure being about 70 lbs. gauge, therefore the rate of air consumption was approximately 80 cubic feet of free air per minute. Three different sized water apertures, 1-8 inch, 1-32 inch, and 1-64 inch diameter, were employed.

*Paper read before the South African Institute of Engineers.

(To be continued.)

PROGRESS ON BARNATO MINES.

State Mines Development and Ore Reserves—Two New Deep Vertical Shafts at Randfontein.

THE reports of the Barnato group of mines for the quarter ended September 30 show the following features:—

At the Consolidated Langlaagte, owing to the scarcity of native labour, there was a decrease of 14,300 tons in the quantity of ore milled as compared with the previous three months, and the costs were higher by over one shilling per ton. The grade showed an improvement of one shilling and sixpence per ton, and the gross profit was reduced by £3,081. The east incline shaft was sunk 130 feet to a total depth of 4,221 feet, and the west incline shaft was sunk ten feet to a total depth of 3,695 feet. The development footage sampled totalled 4,021 feet, and gave the following results: Payable, 1,343 feet, having an average value of 19·22 dwts. over 17 inches of reef; unpayable, 2,678 feet, having an average value of 8·47 dwts. over 12 inches.

At the Ginsberg there was a decrease of 580 tons in the quantity of ore milled; the working profit per ton was practically the same as last quarter, and there was a reduction in the gross profit of £262. The development footage sampled totalled 68 feet, and gave the following results: Payable, 41 feet, having an average value of 10·7 dwts. over 17 inches of reef; unpayable, 27 feet, having an average value of 1·1 dwts. over 39 inches.

At the Glencairn there was an increase of 2,700 tons in the quantity of ore milled as compared with the previous three months. The working costs were reduced by about fourpence per ton, the grade was practically the same, and the gross profit was increased by £1,009. Of the total ore mined, 53,804 tons were obtained from reclamation and other sources, and the ascertained ore reserves were depleted by 16,330 tons.

At the State Mines, owing to the serious shortage of native labour experienced during the quarter, there was a decrease of 13,000 tons in the quantity of ore milled, and working costs were sevenpence per ton higher as compared with the previous three months. The grade showed an improvement of ninepence per ton, and the gross profit was £4,245 lower. The development footage sampled totalled 6,700 feet, and gave the following results: Payable, 5,150 feet, having an average value of 11·6 dwts. over 49 inches of reef; reef partly exposed, 170 feet, having an average value of 2·9 dwts. over 59 inches; unpayable, 1,380 feet, having an average value of 2·9 dwts. over 30 inches. The payable ore reserves are now estimated at 6,012,418 stopping tons, being an increase of over 500,000 tons during the period under review. The two compressors at the south-east shaft were brought into use during August, and work on the two machines at the south-west shaft is being steadily carried on.

At the Langlaagte Estate there was a decrease of 9,780 tons in the quantity of ore milled as compared with the last quarter. The grade showed a slight improvement, but working costs were threepence per ton higher, and the gross profit showed a reduction of £3,294. The Hebbard incline shaft was sunk 118 feet to a total depth of 2,806 feet. The development footage sampled totalled 2,315 feet, and gave the following results: Payable, 1,765 feet, having an average value of 21·2 dwts. over 24 inches of reef; unpayable, 580 feet, having an average value of 5·3 dwts. over 24 inches.

At the Primrose the tonnage milled was increased by 200 tons, and as the grade was over sevenpence per ton higher, and costs slightly lower, the gross profit was £2,259 more than that for the last quarter. The development footage sampled totalled 295 feet, and gave the following results: Payable, 230 feet, having an average value of 6·9 dwts. over 42 inches; unpayable, 65 feet, having an average value of 3·3 dwts. over 36 inches.

At the New Unified the quantity of ore milled was practically the same as that for the previous quarter, working costs were over twopence per ton higher, but as there was a corresponding increase in the grade, the gross profit was reduced by only £124. The development footage sampled totalled 165 feet, and gave the following results: Payable,

165 feet, having an average value of 19·41 dwts. over 15 inches of reef; unpayable, nil.

At the Randfontein Central the supply of native labour showed a further drop during the quarter, and, in spite of the increased efficiency of the underground native labour force, the quantity of ore milled was reduced by 1,416 tons as compared with the previous three months. The grade and working costs were both lower by about fourpence per ton, and the gross profit showed a decrease of £3,372. During the quarter it became necessary to look carefully into the shaft position at Nos. 3, 4 and 5 sections. Each of these sections is served by a vertical shaft and a separate sub-incline shaft dipping at about 70 degrees. It has always been very difficult to sink these shafts fast enough to keep pace with the requirements, and they have always been very expensive. There is a further difficulty that the engine chambers at the top of the sub-inclines are not very safe, and require very heavy timbering and maintenance generally, due to the stoping out of considerable quantities of the adjacent ground. After careful consideration of these points, the expense and difficulty of working with the present lay-out, and the fact that this lay-out is quite inadequate for the deeper levels of these sections, it was decided to sink two new vertical shafts to an approximate depth of 5,000 feet to serve these three sections, and a good start has been made with this work. The shaft sinking accomplished during the quarter, and the depth at the 30th September, were as follows:—No. 2 sub incline, 103 ft., total depth 1,563 ft.; No. 3 sub incline 75 ft., total depth 1,644 ft.; No. 4 sub incline 91 ft., total depth 1,431 ft.; No. 5 sub incline 53 ft., total depth 1,291 ft.; No. 6 main shaft 139 ft., total depth 3,167 ft.; No. 7 sub incline 54 ft., total depth 1,541 ft.; No. 7 new shaft 1,126 ft., total depth 1,350 ft.; No. 9 main shaft 73 ft., total depth 1,351 ft.; north vertical shaft 68 ft., total depth 68 ft.; south vertical shaft 81 ft., total depth 81 ft. The development footage sampled totalled 16,330 feet and gave the following results: Payable, 13,305 feet, having an average value of 20·2 dwts. over 19 inches of reef; unpayable, 3,025 feet, having an average value of 4·08 dwts. over 38 inches.

At the Van Ryn Deep the quantity of ore milled was increased by 2,510 tons, and working costs were reduced by over threepence per ton as compared with the previous three months. The grade of the ore was practically the same, and the gross profit showed an increase of £3,738. The development footage sampled totalled 1,490 feet, and gave the following results: Payable, 1,130 feet, having an average value of 21·6 dwts. over 36 inches of reef; unpayable, 360 feet, having an average value of 3·4 dwts. over 31 inches. The payable ore reserves are now estimated to amount to 2,410,948 stopping tons.

At the "Knights" there was an increase of 2,750 tons in the quantity of ore milled as compared with the previous quarter, and working costs were reduced by over ninepence per ton. There was, however, a drop of about one shilling in the grade, and the gross profit showed a reduction of £168. The sinking of the southern incline shaft was resumed during the quarter, and has reached a total distance of 2,653 feet. The development footage sampled totalled 1,010 feet, and gave the following results: Payable, 620 feet, having an average value of 11 dwts. over 44 inches of reef; unpayable, 390 feet, having an average value of 4·2 dwts. over 41 inches.

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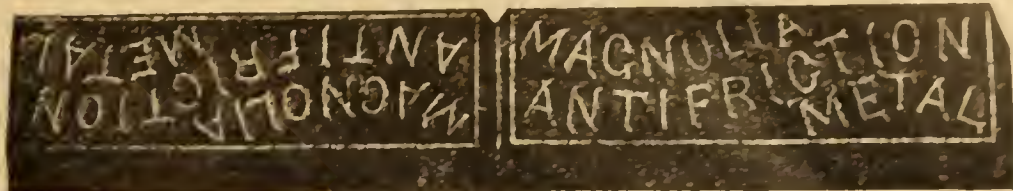
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THE WEEK IN THE MINING MATERIAL AND ENGINEERING TRADES.

Business Slipping Back—Barbed Wire Being Stripped—Stocks Absorbed Faster Than Replacement—Calcutta Grain Bag Market—Linseed Oil and White Lead—More Second-Hand Material—Electric Accessories.

THERE is no outstanding feature to report excepting perhaps the little excitement on the Commercial Exchange on Wednesday, when one of its members was well in the running at the Town Council election. It is pretty well admitted that business has slipped back into a quieter stage throughout Johannesburg. There is a very good reason for this, as the Central Buying Office has the matter of supplies well under control, with the definite object of lowering the present stocks down to a six months' supply on hand. This in a measure applies to merchants' stocks as well as the mine stores, as no oversea tenders will be called for from the merchants until it is recognised that they cannot be obtained without importation. In the matter of wire ropes, which can be accepted as a guide to other materials, tenders have been called from Johannesburg merchants for importation from overseas, to the extent of a quarter of a million feet of three-quarter inch size. The wire rope question is one of the biggest the mines have to provide for, as one million and a quarter feet are in daily use on our mines. It is calculated that the daily wastage averages some 3,000 to 4,000 feet, which obviously requires special efforts to keep stocks anywhere near concert pitch. There are good stocks of battery shoes and dies, which are supplemented in a small way, considering the number in daily use, by the co-operative smelting works run by the mines. There is a great shortage of all kinds of wire, which is now so liberally used in local factories, for screening, fencing, native boxes,

and so forth. The acute shortage of black baling wire has been relieved in a small degree by stripping barbed wire, and using the two strands, which are about the same size, separately for baling forage and other farm produce.

IRON, STEEL AND HARDWARE.

There is a pronounced scarcity of the smaller kinds of round imported iron. On the iron and steel question the manager of a leading importing British house is very undecided as to the future, as he is at a loss to know what is on the water, and so far as can be ascertained it seems that his exporting shippers cannot arrange the necessary freight, owing to the pressing Government requirements. Even the mail advices state that certain lines of materials are awaiting transport from the factories and that seems the sum and substance of the matter. He further remarked that he sold what was in stock at to-day's spot prices, but he declined to keep a quotation open for the morrow, as things alter so from night to morning, as no one is altogether certain of stocks, which have a tendency to come forward when the price is high enough. But even this feature is getting less pronounced as undoubtedly stocks are being absorbed faster than their replacement.

THE TREND OF BUSINESS.

Whilst stocks are anything but plentiful, there is no need for over-anxiety in the immediate future, notwithstanding the check in American supplies through war exigencies. A vein of confidence is becoming more pronounced as regards the future output of gold, by the fact

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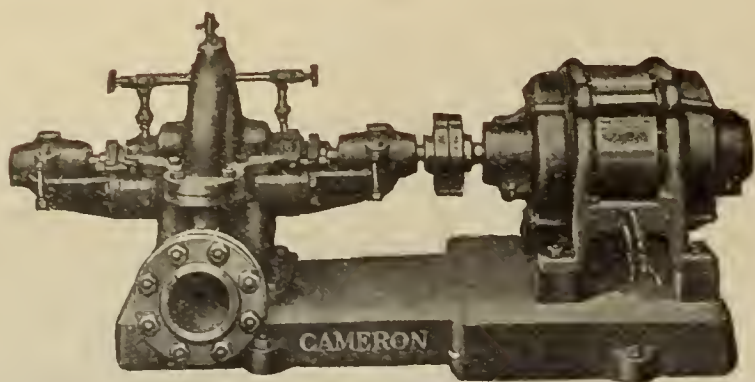
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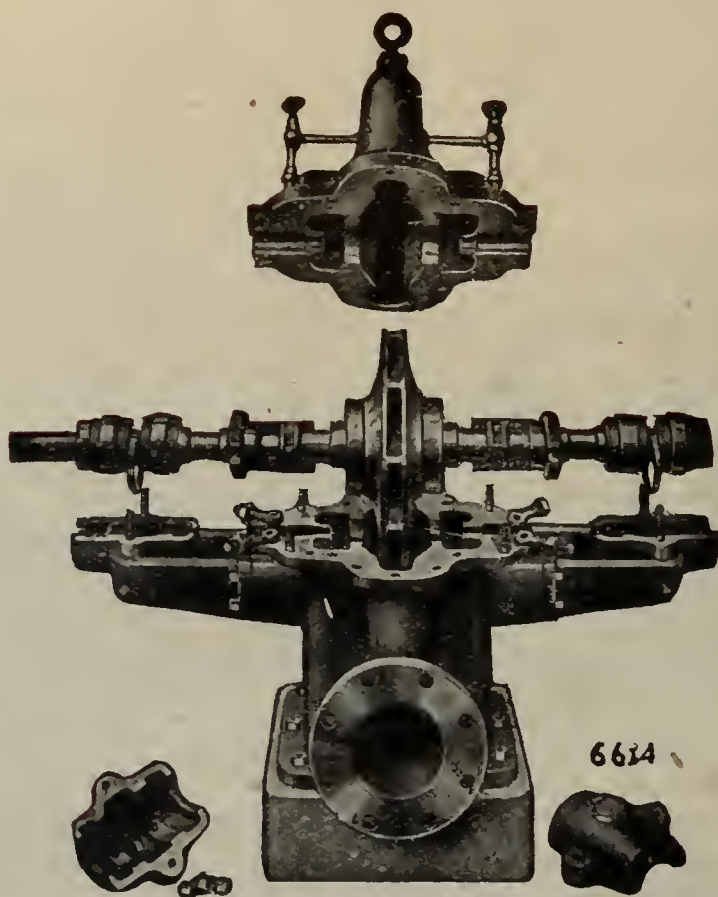
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that if the worst comes to the worst, the lower grade mines can be closed down and their stores used to push ahead with the richer propositions. The result of several informal meetings is that nothing will be closed down if the economic conditions balance the revenue and expenditure, and as each month goes by the same question keeps cropping up, but one seems no nearer in ascertaining how such a knotty problem will be eventually solved—excepting that it may be possible to muddle through.

GRAIN BAGS.

Last week a cable was received from India that the Calcutta grain bag market was closed, hence no quotations were available. During this week, however, another cable was received, giving a few quotations for delivery in South Africa in April, May and June. The closing of this bag market came as a surprise, as we are very dependent upon India for the supply of all kinds of bags, not only for grain but for cement and various descriptions of produce. The explanation is unfortunately very simple, and that is the war, which is interfering with the normal communication with India that we have been so accustomed to. For example, rice has advanced double and is likely to reach 10d. per lb. retail, through the absence of Indian freight.

WHITE LEAD, OILS AND PAINTS.

Whilst there is an acute shortage of white lead, the actual position is anything but clear, as stocks seem to come forward when the inducement is sufficiently high in price. It may be that a little has been released from stocks in view of anticipated arrivals from London, which has been allowed to replace some of that supplied to the Government here. The current mail advices may do much to elucidate matters. Linseed oil seems to be in a worse position than white lead, but the relief for both is the quantity of mixed paints still in Johannesburg. One distributing house alone has seven to eight tons on hand and others are in like proportion. Obviously the ordinary contractor mixes his own paints, but now that is getting almost prohibitive, he has the mixed article as a temporary substitute to fall back upon. Turpentine has advanced 2s. 6d. per case of 24's, chiefly because of the quantities being used in local manufactories for making floor polish, and more particularly of late boot-blackening of different varieties. One factory has

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already sold out its whole output for the month of November, and according to the manager, business in this direction looks very promising, as a lasting institution, even when normal conditions again prevail.

SECOND-HAND MATERIALS.

The second-hand yards have had an influx of building materials from derelict mines, and especially from Johannesburg itself from the demolished pioneer houses of wood and iron, to make room for up-to-date erections. In the absence of anything like an active demand, prices have eased, particularly in second and third rate materials, suitable only for cattle sheds and the rougher farm outhouses. Roofing iron is down twopence per foot, but the best deals and flooring boards keep steady, on account of the upward tendency in values of new timber. What activity is lacking in the demand for building materials is more than compensated for in the enquiries for pipes, rails and machinery spares, but with little success for actual business on account of poor stocks.

ELECTRICAL ACCESSORIES.

Electrical goods are dribbling through from various sources. Supplies of lamps have been received from Holland via London, and some electric accessories from Japan.

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such as ceiling roses, lamp holders, cleats, switches, and even a few lamps, but the latter are not too highly spoken of. Wiring of certain sizes is difficult to obtain, owing to supplies being at a low ebb. Three-twenties are up 5s., and seven-twenties are quoted at 70s. per coil. Business, or perhaps enquiry, is excellent, but actual trading is limited to those having the best assorted stocks, which are getting poorer as the weeks pass without adequate supplies arriving, and very little can be done locally in the manufacturing of such intricate "fine art" materials.

POOLING AND STANDARDISATION.

Nothing new was obtainable at the Central Buying Office, excepting that everything was running smoothly. The Standardisation Committee are busy, but evidently not making much progress, as they have very difficult problems to solve. The questions being handled are skip wheels and mill spares, excluding shoes and dies. A hint was obtained that some announcement from the Standardisation Committee may be forthcoming next week.

PETROL SUPPLIES.

The position of petrol for motors is a waiting one, until the Government has had time to digest the stock returns (over five cases) which were called for by November 7th, 1917. There is a rumour, nay a statement, made by a dealer in town that an independent ship is expected to arrive from America. This means independent of the usual channels of supply. Not that it would alter prices, but ensure supplies, as the dealer in question remarked that a shilling or so in the price was of secondary importance, providing the petrol could be obtained at the advanced price. Now the restrictions in force control the price without affecting the supply of petrol. Special enquiries were made

from various sources, and all are pretty unanimous that the present scarcity—not acute scarcity, remember—will be tided over until the next ship arrives from America.

BUILDING MATERIALS.

There has been a further advance in flooring boards, which are quoted at 9½d. to 9½d. per square foot. This is a record price for Johannesburg, and unfortunately there seems no stopping in the upward tendency in value of the best building timber. The explanation given for this last rise is that there has been a run in the demand for flooring boards to finish off residences and business premises, both in Johannesburg and the Far Eastern Rand. The last shipments of these boards for delivery in Johannesburg have totalled up much higher, owing to the first cost, extra rate of freight, insurance charges, etc. The galvanised iron position is much the same, not exactly with an easier tendency but certainly not a rising one, as fears are entertained that the local tiles will be an excellent substitute for roofing, at all events during the war period, and perhaps afterwards. A quotation for tiles was asked for, but none could be obtained for immediate delivery, the market being for three months. The demand for bricks continues excellent, but kilns are behind in delivery and makers

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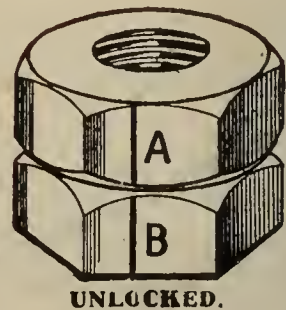
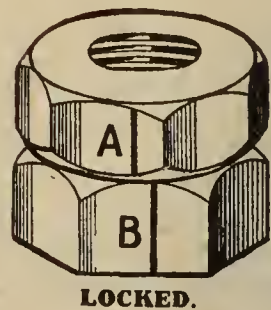
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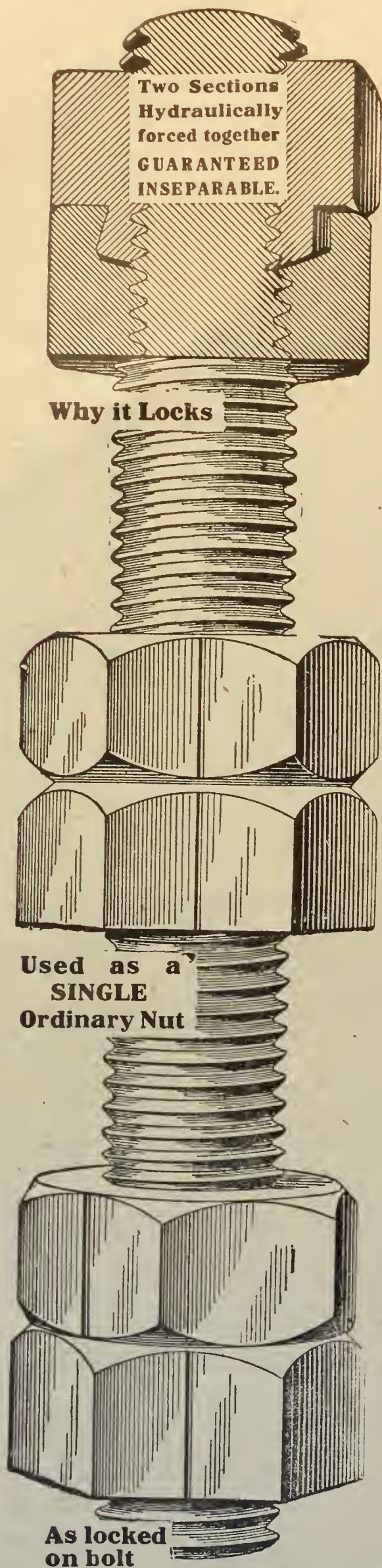
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are diffident about booking orders until after the end of this month. The tendency is for a further advance, as the rainy season is approaching and more has to be paid for labour and all other accessories in connection with brick-making. The building trade continues fairly good without any signs of diminution until the end of the year, when a lull usually occurs.

VARIOUS TRADE GLEANINGS.

The dulness of trade can be accounted for in various ways. For instance, the official curtailment of export to the Belgian Congo and Portuguese territory is an important factor. The glazed pipe factories at Olifantsfontein are continuously busy, and the output practically goes to all the municipalities in South Africa. Salad oil is 95s. to 100s. per case for two-fours. Olive oil is 25s. per gallon and difficult to obtain at that. A warning is given that German silver coins are being palmed off in Johannesburg for British two-shilling pieces.

REVISED PRICE LIST.

BUILDING MATERIALS.—Timber: Deals, Baltic, 9 x 3, 1s. 3½d. to 1s. 4½d.; flooring, 1½ x ¾ and 6 x ¾, 9½d. to 9½d. per square foot; flooring, 4½ x 1½, 9½d.; and 6 x 1½, 9½d.; ceilings, 6 x ½, 4½d. to 4½d. per square foot; pitch pine, 8s. 6d. per cubic foot; Oregon, 6s. 6d. per cubic foot; clear pine, ½ in. x 12 in., 1s. 1d. per foot; lin. x 12 in., 1s. 3d.; teak, 16s. 6d. to 17s. 6d. cubic foot; shelving, 10d.; jarrah, 12s. 6d. c. ft.; poplar, 1 in. x 12 in., 1s. 3d.; scantling, 1s. 3½d. to 1s. 4½d. ft.; beaver boards, 5d.; galvanised iron, 24-gauge, 6ft. to 10ft., 2s.; 11ft., 2s. 1d.; 12ft., 2s. 2d.; 26-gauge, 6ft. to 8ft., 1s. 10d.; 9ft. and 10ft., 1s. 10d.; flat galvanised, 24-gauge and 26-gauge, 140s. per 100 lbs.; floor brads, 52s. 6d.; ceiling, 47s. 6d.; wire nails, 47s. 6d. to 55s. per 100lb.; locks, rim, 66s.; mortice, 70s. per dozen; steel ceilings, 75s. to 80s.; roofing material, 1 ply, 35s.; 2 ply, 45s.; and 3-ply, 47s. 6d. per roll.

Bricks, cement, lime, etc.: Pretoria Portland Cement, 9s. 3d. per bag; 8s. 3d. truck loads; lime, white, unslaked, 7s.; truck loads, 6s.; slaked, do., 5s.; blue 3s. 6d.; plaster lime, 4s. 6d.; bricks, stock delivered, 50s. to 55s.; wire cuts, 55s. to 70s.; pressed, 70s. to 80s. per 1,000; road transport difficult to obtain; salt and white glazed bricks, £35 per 1,000; roofing tiles, £15 to £27½ per 1,000; glazed tiles, 10s. 6d. to 17s. 6d. per yard; paving cement tiles, 8s. 6d. per yard laid; reinforced concrete columns, 6 ft. plain, 22s. 6d.; fluted, 24s.; fireclay bricks, £7½ to £9½, at kiln, per 1,000; clay chimney pots, 36s. to 70s., according to height, 12 in. to 18 in., per doz.; fire clay, 37s. 6d. per ton on rail.

Oils, paints, lead, oxide, glass: Linseed, raw and boiled, 52s. 6d. to 55s. per five gallons; white lead, 1s. 3d. per lb. (big lots not quoted); turpentine, 60s. 2¼ 1-5 gallons; 10/1, 5/6 Imperial tins, 67s. 6d.;

oxide in oil, 40s. per 100lb.; dry oxide, 26s. 6d. to 27s. 6d. (pressed oil patty, all at 7d. lb.); paints in tins, 1s. 1d. to 1s. 3d. lb. (Barton); plateglass, ¼ in., 4s. 6d. to 5s.; do, mirror, 5s. 6d.; window, 12oz., 1s. to 1s. 3d. per foot.

Grease, imported, A.F. axle, £30 to £32½; local, £21 to £22 per ton; tallow (local), 6d. per lb.; White Rose paraffin, 13s. 4d. 2 ¼. Laurel paraffin, 18s. 1d.; petrol, 32s. 6d. to 36s. 6d. 2 ¼ I.M.P. motor oil, 6s. 6d. to 7s. 6d. per gallon; engine lubricating oil, 27s. to 40s. per case; cylinder, 28s. 6d. to 42s. 6d.

Chemicals: Mercury, £55 to £60 per 75lb. bottle last sale, but now no definite price; bichlorate potash, 5s. 6d. lb.; chlorate, 4s. 6d. per lb.; permanganate, 14s. lb.; alum, 6d. lb.; carbolic acid, 7s. 6d. lb.; borax, 92s. 6d. 100 lbs.; cyanide soda, 1s. 5d. lb.; hypo, 9d. lb.; acetate lead, 77s. 6d. 100lbs.; litharge (assay), 70s. to 72s. 6d. (commercial), 58s. 6d. 100lbs.; zinc sheets and blocks, 1s. 9d. lb.; plumbago crucibles, 5d. per number.

Electrical goods: Lamps, high volts, British, Holland, and American, 30s. to 36s. wholesale, and 45s. to 54s. doz. retail; carbon lamps, 12s. 6d. doz.; pure rubber flex, 6d. to 8d. yd.; 3 20 coils wire, 37s. 6d. to 40s.; do., 3 22, 23s. 6d.; tubing, 15s. to 20s. 100ft.; keyholders, 6s. to 7s. 6d. each, round blocks, 3½ in., 1s. doz.; lamp holder cord grips, 13s. 6d. to 15s. per dozen; switches, 5 amp., 42s. to 48s. per dozen; British glass shades, 30s. to 40s. dozen; porcelain shackles, 15s. to 18s. dozen; do., bobbins, 15s. to 25s. per 100; cleats, 22s. per 100; P.O. insulators, 18s.; motor, 3 h.p., about £35 to £37, new.

Iron, imported, ¼ in. and ½ in. round, 60s. to 65s. per 100 lb.; ¼ in. round, 60s. to 65s. 100lb.; ½ in. round, 37s. 6d. to 40s. 100lb.; lin. upwards, round, 32s. 6d. to 35s. per 100lb.; square iron, 30s. per 100lb.; flat iron, small shoeing sizes, 45s. to 50s.; flat, average width and thickness, 28s. 6d. to 30s.; round iron, local, ½ in. upwards, 25s. 6d. per 100lb.; square iron, local, ½ in. upwards, 25s. 6d. per 100lb.; flat iron, average widths and thickness, 25s. 6d.; mild steel bar, 5½d. per lb.; drill, 1s. per lb.; steel plates, 60s. to 67s. 6d.; some sizes unobtainable; hexagon and cuphead bolts, ¼ in. diameter, 2s. per lb.; 5-16in. diameter, 1s. 9d. per lb.; ½ in. diameter up to 3in. long, 1s. 3d. lb.; ½ in. dia., 11d., 3½ in. and up long, 1s. lb.; ½ in. dia. up to 2½ in. long, 70s. 100lb.; ½ in. dia. and 2½ in. up long, 70s. per 100lb.; ½ in. diameter up to 2½ in. long, 57s. 6d. per 100lb.; ½ in. dia., 2½ in. and up long, 55s. per 100lb.; ½ in. diameter, 2½ in. and up long, 50s. 100 lbs.; ½ in. and lin. dia., same price as ½ in. diameter; nuts, ½ in., 1s. 3d. per lb.; ½ in., 72s. 6d.; ½ in. to 1½ in., 70s.; 1½ in. and 1½ in., 75s.; 1½ in. to 1½ in., 75s.; 2in. up, 55s.; washers, all sizes, 45s.; rivets, 3-16in., 1s. 6d. lb.; ½ in., 5-16in., 1s. 3d. lb.; 7-16in., ½ in., 1s. lb.; ½ in., 10½d. lb.; ½ in., 55s.; ½ in. up, 52s. 6d. 100 lb.; shoes and dies, 32s. 6d. to 35s. 100lb.; rails, £25 per ton; picks, 4lb., 40s. per dozen; shovels, 55s. to 60s. per dozen; drill hammers, 5½d. to 6d. per lb.; hammer handles (best American), 14in., 3s. 6d.; 24in., 7s.; 30in., 9s. 6d.; 36in., 13s. per dozen; metal, anti-friction, 1s. per lb.

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